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REPORT OF THE FIRST CONSULTATION MEETING ON THE IRON AND STEEL INDUSTRY

Vienna, 7-11 February 1977

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Explanatory notes

References to dollars ($) are to United States dollars.

Billion signifies a thousand million.

References to tons are to metric tons.

CONTENTS

Chapter		Page
	INTRODUCTION	4
I.	ORGANIZATION OF THE MEETING	5
II.	THE LONG-TERM EXPANSION OF STEEL PRODUCTION IN THE WORLD AND THE DEVELOPING COUNTRIES' GROWING SHARE (Issue No.I).....	6
III.	RAW MATERIALS AND FUELS REQUIRED FOR THE EXPANSION OF THE WORLD IRON AND STEEL INDUSTRY TO 2000 (Issue No. II)	8
IV.	TECHNOLOGY REQUIRED FOR THE DEVELOPMENT OF THE STEEL INDUSTRY IN THE DEVELOPING COUNTRIES (Issue No. II)	11
V.	FINANCING REQUIRED FOR THE DEVELOPMENT OF THE STEEL INDUSTRY IN DEVELOPING COUNTRIES (Issue No. II)	16
VI.	CONSTRUCTIVE INTERNATIONAL CO-OPERATION AND FOLLOW-UP TO THE FIRST CONSULTATION MEETING ON THE IRON AND STEEL INDUSTRY (Issue No. III)	18

Annexes

I.	Statement by Dr. Abd-El Rahman Khane, Executive Director of UNIDO	19
II.	List of participants.....	23
III.	List of documentes	35

INTRODUCTION

The Second General Conference of the United Nations Industrial Development Organization (UNIDO), held at Lima, Peru, in March 1975 recommended that UNIDO include among its activities a system of continuing consultations between developed and developing countries and among developing countries themselves with the goal of raising the developing countries' share of world industrial output through increased international co-operation. The General Assembly of the United Nations at its seventh special session in September 1975 decided that the system of consultations called for by the Lima Declaration and Plan of Action should be established at the global, regional, interregional and sectoral levels and that UNIDO, at the request of the countries concerned, should provide a forum for the negotiation of agreements concerning industry between developed and developing countries and among developing countries.

In April 1976, the Industrial Development Board, the policy making body of UNIDO, decided that consultations on industrial sectors should be organized on an experimental basis, with account taken of the priority sectors indicated in the Lima Declaration, the varying capacity of developing countries to benefit from such consultations, and the views expressed by member countries during the tenth session of the Board.

In September 1976, the Industrial Development Board decided that these consultations "should be convened among member countries, the participants from interested countries to include representatives of any or all of the following: government, industry, labour, consumer groups etc. - as deemed appropriate".[1/]

Accordingly, the Executive Director of UNIDO convened, at an early date, consultation meetings relating to the fertilizer industry, held from 17 to 21 January 1977, and the iron and steel industry, held from 7 to 11 February 1977. Both consultation meetings were preceeded by preparatory meetings to select issues for consideration by the consultation meetings. A Preparatory Meeting for the First Consultation Meeting in the Iron and Steel Industry was held at Vienna from 7 to 11 December 1976; it was attended by participants from 23 developing and developed countries and several international organizations.

The present report was adopted by consensus by the participants at the First Consultation Meeting on the Iron and Steel Industry, held at Vienna from 7 to 11 February 1977. The annexes contain the opening statement by the Executive Director, the list of parcipants and the list of documents presented to the Meeting.

1/ "Report of the Industrial Development Board on the work of its resumed tenth session" (ID/B/171/Add.1), para. 24 (d).

I. ORGANIZATION OF THE MEETING

1. The First Consultation Meeting on the Iron and Steel Industry organized by UNIDO was opened by the Executive Director of UNIDO, Dr. Abd-El Rahman Khane, on 7 February 1977. Annex I contains his address.

2. Reza Amin (Iran), Managing Director, National Iranian Steel Industries Company, was elected Chairman. The following Vice-Chairmen were elected:

R. Barbis (Peru), Technical Adviser, Empresa Siderúrgica del Perú

S. Dejebali (Tunisia), Président Directeur Général de la Société El Fouladh

W. Hewlett (United Kingdom of Great Britain and Northern Ireland), Executive Board, British Steel Corporation

Joseph Miksa (Czechoslovakia), Director of Section, Ministry of Metallurgy

It was agreed that these officers, together with the Chairman, would constitute the Bureau.

3. The Meeting adopted the following agenda:

1. Election of officers
2. Adoption of the Agenda
3. Adoption of rules of procedure
4. Consideration of the priority issues recommended by the Preparatory Meeting:

   (a) To examine the expansion of steel demand and steelmaking capacities over the short and medium terms (1985 and 1990) and long term (2000) and to encourage and support the full development of steel projects in the developing countries consistent with the Lima Declaration, bearing in mind the special problems and prospects of developing countries with little or no steel production;

   (b) To identify and stimulate ways and means of securing the availability and supply, at an appropriate price, of steelmaking raw materials and of providing technology and financial resources;

   (c) With a view to implementing the objectives outlined above, to mobilize the required resources and to develop constructive international co-operation for the expansion of steel production and trade in developing and developed countries.

5. Adoption of the report

4. At the suggestion of the Chairman, the Meeting agreed that there should be no rules of procedure. The Meeting should be conducted in an informal manner which would allow flexibility and a spirit of co-operation.

II. THE LONG-TERM EXPANSION OF STEEL PRODUCTION IN THE WORLD AND THE DEVELOPING COUNTRIES' GROWING SHARE (Issue No. I)[2/]

Summary of the discussion

5. The Meeting took note of the Lima Declaration and Plan of Action that had been endorsed by the General Assembly at its seventh special session and, in particular, of the statement that the developing countries' share of total world industrial production should be increased to the maximum possible extent and at least by 25 per cent by 2000.

6. The Meeting examined the potential for the expansion of world steel production up to 2000 and agreed that, in the context of the Lima Declaration and Plan of Action:

(a) The order of magnitude of the expansion of demand for iron and steel in the world was likely to be from about 700 million tons at present to about 1,750 million tons in 2000;

(b) There was a need for a major expansion of the iron and steel industry in the developing countries, and their share of total world steel production by about 2000 might be as much as 30 per cent; the actual figures realized would depend on the soundness of the development schemes and international co-operation;

(c) The establishment of iron and steel projects in developing countries should be encouraged and supported.

7. The Meeting emphasized that the projected figures could form a useful basis for exchanging views on obstacles to the development of the world steel industry for both developed and developing countries and for considering how the aim of developing countries to increase their share of total world steel output could be achieved through international co-operation.

8. It was recognized that although the current consumption of steel in many developing countries was low, there was already a demand for steel that was being partly met mainly through imports. Potential future demand could be expected to develop as indigenous steel became readily available and would increase further with economic growth.

9. The Meeting emphasized that the production of individual developing countries would develop in accordance with their capacity to expand steel production, market requirements and other considerations. In spite of the special problems of developing countries with little or no steel production, many of them could establish a viable steel industry by taking advantage of the new technologies that were suitable for small-scale production.

2/ Agenda item 4(a).

10. In view of the long period needed to establish a steel industry, new steel production capacity should be planned well in advance so that production would be available to satisfy future demand as it arose.

11. It was considered that the development of new steel capacity in developing countries would provide benefits for those countries, including higher employment, improved skills, social benefits, higher incomes and savings in foreign exchange. Developed countries would also benefit, especially from increased trade. Thus the benefits would be mutual.

12. The Meeting agreed that the development of the steel industry in developing countries should help to raise the general standard of living and, in particular, that of workers in steel plants. It took note of the social implications of the planning of steel plants, including the need to consider such social factors as employment and working conditions, and the environment.

Recommendation

13. In co-operation with the parties concerned, UNIDO should:

(a) Promote actively a continuous exchange of information on the planning and progress made by the developing and developed countries in increasing production of steel;

(b) Identify obstacles to the development of the world steel industry and suggest ways of overcoming them;

(c) Submit a progress report on those matters for consideration at the next Consultation Meeting on the Iron and Steel Industry.

III. RAW MATERIALS AND FUELS REQUIRED FOR THE EXPANSION OF THE WORLD IRON AND STEEL INDUSTRY TO 2000 (Issue No. II)[3/]

Summary of the discussion

14. The Meeting considered ways and means of securing adequate availability of raw materials and fuels for the envisaged expansion of the world iron and steel industry. It confirmed that reserves of iron ore in the world were sufficient and thus iron ore was not a scarce resource. Many of the high-grade iron-ore deposits were located in the developing countries. Available resources of coking coal were limited, however, and most of the proven deposits were located in the developed countries.

15. The Meeting recognized the need for expanding and developing iron-ore mining to ensure adequate supplies in the medium term. The exploitation of new mines would require considerable investment for which the necessary finance would have to be found on a scale commensurate with the development of the market with the objective of obtaining an equitable price for the iron ore. There was thus a need to consider measures to promote the investment required. Local processing (pelletizing and/or direct reduction) would increase value added and improve the prospects for such investment.

16. The Meeting considered some of the ways in which the investment required could be provided. One possibility was for steelmaking enterprises to be directly involved, individually or as a group, in the development of new iron-ore mines. In that way the needs of the consuming steel industry would be closely linked to the new production of iron ore. It was normal practice in such cases for long-term supply contracts to be negotiated and for consuming enterprises to participate in the mining venture itself.

17. The Meeting recognized that iron-ore prices were usually determined by commercial negotiations, were specific to each operation and depended on the length of contract and other factors. It heard a statement by the representative of the United Nations Conference on Trade and Development (UNCTAD) indicating that iron ore was one of the 18 commodities included in the UNCTAD

3/ Agenda item 4(b).

Integrated Programme on Commodities. Matters of price stabilization and buffer stocks of iron ore were thus being considered in UNCTAD and, in a more general context, in the Conference on International Economic Co-operation being held in Paris.

18. There would be mutual advantages for developing and developed countries if the developing countries producing iron ore were to undertake further domestic processing in the form of concentrating or pelletizing the ore and/or producing sponge iron by direct reduction. The local availability of iron ore could also provide a basis for establishing an iron and steel industry in the mining country and/or in neighbouring developing countries.

19. The Meeting expressed concern at the limited known reserves and availability of supplies of coking coal. It noted that coking coal was being used in a few cases for non-metallurgical purposes, such as generating power. In the interests of the whole international community, measures might be taken to ensure that coking coal should be reserved for the production of iron and steel.

20. Considerable efforts had been devoted in both developed and developing countries to reducing the use of coking coal in steel manufacture, but the relevant technology needed to be developed further. The use of natural gas as a partial replacement for coke was recommended. Formed coke had not yet been applied to large blast furnaces, but the process might perhaps already be suitable for small plants, and it would be useful to continue developing the process for use in large plants.

21. A common international effort was needed to find technical and economic ways to improve the supply situation for coking coal. Ways to ensure guaranteed supplies should be examined. The issue could be a priority one for a working group of experts to consider.

22. The countries concerned needed to explore opportunities for concluding new types of long-term agreements (bilateral or multilateral) that would ensure the availability of raw materials for steelmaking, in exchange for steel products and capital goods. Such agreements should provide for a progressive diversification of the products exported in order to realize more added value.

Recommendations

23. In co-operation with the parties concerned, the UNIDO secretariat should examine the following topics so that it could make specific proposals to the next Consultation Meeting concerning ways of promoting international co-operation to ensure the availability of the raw materials and fuel needed for the expansion of the iron and steel industry:

(a) An assessment of the world iron-ore resources, quantitatively and qualitatively;

(b) A review of known reserves of coking coal and the identification of probable resources;

(c) A review of the plans and progress made in developed and developing countries to increase the production of those raw materials and consideration of whether appropriate measures were being taken to ensure an adequate supply of them;

(d) A survey of the investment costs of existing iron-ore mines and beneficiation and pelletizing installations and the infrastructure needed so that the magnitude of the investment problem could be evaluated to satisfy the requirements of the Lima Declaration, with a view to examining the return on investment that would be required to make the investment viable;

(e) A survey of the alternative techniques including sponge iron that might be used to replace coking coal by other fuels and reductants, including processes for the gasification of coal, and the use of formed coke or charcoal, taking into account the returns from alternative uses of those raw materials.

24. In examining those topics UNIDO should consider existing studies made by other bodies within and outside the United Nations; the reports should be reviewed and gaps identified that needed to be filled by additional information. In view of the interest in those topics expressed by participants at the Consultation Meeting, working groups consisting of experts from both developed and developing countries should be established at an appropriate stage.

IV. TECHNOLOGY REQUIRED FOR THE DEVELOPMENT OF THE STEEL INDUSTRY IN THE DEVELOPING COUNTRIES (Issue No.IT)[4/]

Summary of the discussion

25. The Meeting recognized that the developing countries would continue to rely mainly on technology supplied by the industrialized countries for the development of their own iron and steel industries. There was a general expression of willingness and determination on the part of the participants from the industrialized countries to continue to help implement the major expansion of the iron and steel industry envisaged by the developing countries. Already modern technology like the basic oxygen process and the direct reduction technology had been successfully transferred to some developing countries.

26. The technology required would depend on the size and type of steel industry envisaged by each developing country. It would be advantageous for many developing countries to consider steel projects that would supply regional markets; assistance was often needed to evaluate the economics of alternative combinations of plants to produce crude steel and steel products so that the countries concerned could make the best choice.

27. Intensified efforts should be made to adapt technology to suit the needs of individual projects in developing countries. A number of research and development institutes for the iron and steel industry in both developed and developing countries were concerned with that problem. UNIDO should undertake the necessary steps to ensure that technical information and advisory services available from the existing institutions become widely known and used effectively. In the light of the experience thus obtained, UNIDO should report to the next Consultation Meeting whether it would be useful to establish an international technical and development centre to provide impartial technical advice and assistance to developing countries through consulting services on the choice and transfer of technology. This work would be co-ordinated with the steps being taken by UNIDO to establish an industrial technological information bank provided for by General Assembly resolution 3362 (S-VII).

4/ Agenda item 4(b).

28. The Meeting felt that the transfer of technology was a complex process that required a long time; it could best be considered in the following stages:

A feasibility study that defined the products to be produced and the manufacturing process to be used

The design of the plant and selection of equipment

The construction of the plant

The initial operation of the plant

The optimization of output from the plant

Research and development to improve the process

Possible engineering of an expansion of the plant

29. The Meeting made a distinction between the transfer of technology, which was first linked to the supply of equipment and the design and construction of the plant, and technical know-how, which could be supplied by an existing steel producer who had optimized the production process in his own plant. It was stressed that developing countries should make adequate provision for both the transfer of technology and the provision and absorption of technical know-how.

30. The ultimate objective of a full transfer of technology was to enable a developing country to become technologically self-reliant. That implied that the local staff of a steel enterprise should be able not only to operate a steel plant successfully, but also to improve the process and adapt it to local needs, design new plants and assimilate technological improvements developed elsewhere. Furthermore, many developing countries would endeavour to produce spare parts and other supplies needed and a growing range of capital goods. International co-operation that began as technical assistance would thus ultimately become technical co-operation.

31. The Meeting considered the best way to achieve the goals of the full transfer of technology. It recognized that one essential condition for the successful assimilation of technology was the availability of educated local personnel at all levels and their involvement in a steel project from the time it was conceived.

32. The Meeting recognized that a developing country that was establishing a steel industry should set up its own nucleus of planning engineers and managers so that they could hold the initial dialogue with the foreign partners and ensure that the project was properly adapted to local needs and conditions.

Subsequently, they should be involved in the planning and design of the plant so that at a later date they could form the core of a national technical consultancy design and engineering organization. Furthermore, the Meeting encouraged the suppliers of equipment and services to undertake their work to the greatest possible extent in the client's country.

33. The Meeting considered ways in which contracts to build or to assist a steel plant in a developing country could help ensure that the plant would operate successfully. Although it might be difficult to suggest a uniform model contract that could be applied to all types of steel plants likely to be constructed in developing countries, such contracts should proved for:

(a) Adequate involvement of local personnel at all stages of construction of a plant and continued assistance in the initial years of operation;

(b) Continuous access on equitable terms to advice and information on the latest technological developments and know-how;

(c) Performance guarantees;

(d) Guarantees against deficiencies in design of plant and equipment;

(e) Adequate training of local personnel to manage and operate the plant.

34. The transfer of technology meant the transfer of skills; thus one of the most important matters was the training of local staff. Training should be planned and begun well before a plant started up. In addition to intensive training on the job, some personnel should be trained abroad, particularly those who could return as teachers. In addition to training technical personnel needed for operating the plant, personnel should be trained in marketing, management and finance.

35. The envisaged expansion of steel production in developing countries would require training on a much more extensive scale than in the past. Existing facilities should be made more readily available to developing countries and should be strengthened. Training centres for the steel industry in the developing countries should be set up and metallurgical engineering incorporated into the local university system. Interregional training centres should be set up to develop technical staff for the steel industry in the region. Developed countries should render sufficient help and assistance to achieve this goal. Inquiries should be made of competent authorities about the size of the problem relating both to numbers and facilities for the information of the next consultation.

36. The Meeting noted that several developing countries had established national metallurgical institutes that assisted in the application of technology. A number of regional and subregional institutes had also been established. Their purpose was to help adapt technology to local conditions, help improve the performance of existing plants, and consider technologies that might be used for the expansion of steel plants.

37. The Meeting supported the aim of many developing countries to follow local production of steel with local production of spare parts, other supplies and a growing range of capital goods. The substantial progress that certain developing countries had made was based on technological co-operation from developed countries. Since capital goods were needed not only for the steel industry but also for other industries, it was suggested that the matter be considered by a separate consultation meeting on capital goods manufacture.

38. The Meeting appreciated that some of the more advanced developing countries were in a position to offer trained personnel and design and engineering services and to supply certain capital goods to other developing countries. The development of such capabilities by other developing countries might best be achieved through subregional or regional co-operation. Opportunities to exchange experience between developing countries and to provide in-plant training facilities in steel plants located in developing countries would also increase. The possibility of starting design institutes and research centres that would meet local and regional needs by stimulating local and regional efforts relating to the transfer of technology, including adaptation to local needs and training also existed.

39. The Meeting recognized that the developed countries, through their co-operation, had made a major contribution to the establishment of steel plants in developing countries. Several means by which that co-operation could be furthered and intensified were discussed. In many instances, the co-operation of a steel-producing company from a developed country had proved valuable. When a steel plant was built with or without foreign equity participation in the project, then there was a special need to consider ways that would ensure greater solidarity between the partners and a continuing mutual responsibility for the successful and efficient operation of the plant. That broad subject, which included penalties, guarantees and contracts, should be examined further and considered at the next Consultation Meeting.

40. The Meeting stressed that UNIDO had a major role to play in the follow-up to the suggestions concerning technology. The developing countries were seeking ways to accelerate the transfer of technology and to measure its effectiveness.

Recommendations

41. UNIDO should:

(a) Promote a regular exchange of information between research and development institutes and laboratories of both developed and developing countries working on the adaptation of steel technology to suit the needs of the developing countries;

(b) Examine the possibility of and need for establishing an international technical and development centre for the iron and steel industry to guide developing countries in establishing steel plants and to provide consulting services;

(c) Promote the consideration at the regional level of plans for expanding the iron and steel industry;

(d) Continue to assist developing countries in establishing national metallurgical centres and laboratories;

(e) Continue to examine contract procedures and guarantees related to the construction and operation of steel plants intended to ensure the protection of the interests of all parties concerned;

(f) Convene a group of experts to consider specific solutions to the training problems faced by developing countries establishing steel plants;

(g) Consider the subject of capital goods for the steel industry in a consultation meeting that may be initiated by UNIDO to cover the subject of capital goods generally;

(h) Submit a progress report on those matters to the next Consultation Meeting on the Iron and Steel Industry.

V. FINANCING REQUIRED FOR THE DEVELOPMENT OF THE STEEL INDUSTRY IN DEVELOPING COUNTRIES (Issue No. 11) 5/

Summary of the discussion

42. The Meeting noted that the expansion of iron and steel production capacity envisaged by the developing countries up to 2000, which could be of the order of 400 million tons, would require an estimated investment of about $400 billion at 1976 costs. Consequently, unless ways were found to mobilize financing on that scale, a shortage of funds was likely to remain the main constraint on the development of the iron and steel industry in developing countries. The magnitude of the financing required was a problem for domestic as well as external sources. Some participants recorded that they felt the greatest possible mobilization of domestic sources of financing could be ensured if the iron and steel industry, including raw material and fuel resources, were part of the state sector and its development took place on the basis of scientific planning. The Meeting noted particularly the importance of implementing resolution 46 (X) of the Industrial Development Board of UNIDO concerning inalienable sovereignty over natural resources.

43. The Meeting considered financing schemes in which bilateral credits were offered by a group of developed countries simultaneously in conjunction with competitive bidding. It recognized some advantages in that approach, which it suggested should be further developed.

44. Some developing countries might be able to raise financing for steel industry projects from international capital markets; their ability to do so, however, depended on the credit worthiness of the country as well as on the project itself. Financing from that source was therefore likely to offer limited prospects for the developing countries as a whole.

45. There was thus a need to consider finding new sources of finance. Financing might be obtained from new investment funds that could be established using the capital surplus of some developing countries in co-operation with the developed countries or from other multilateral sources such as the European Economic Community.

5/ Agenda item 4 (b).

46. The low return obtained from existing investment in steel production in both developed and developing countries was a factor that made it difficult to raise sufficient funds for financing new steel industry projects.

47. The Meeting noted that financing was likely to be a problem also in the expansion of other industries in developing countries. The attention of the international community needed to be drawn to that problem, particularly in forums such as the Conference on International Economic Co-operation that considered the flow of financial resources to developing countries.

Recommendation

48. UNIDO should convene a working group on the financing of the iron and steel industry in developing countries to consider the following topics;

(a) The problems faced by the developing countries in raising a sufficient volume of funds from domestic and external sources to finance new steel plants and associated infrastructure;

(b) The suitability of the terms and conditions on which international financing was provided to the developing countries for the construction of steel plants and associated infrastructure;

(c) The nature and content of the guarantees that should be provided in order to attract large external contributions to the financing of steel plants in developing countries;

(d) The assistance UNIDO could provide in preparing projects and arranging appropriate financing.

VI. CONSTRUCTIVE INTERNATIONAL CO-OPERATION AND FOLLOW-UP TO THE FIRST CONSULTATION MEETING ON THE IRON AND STEEL INDUSTRY (Issue No. III) 6/

Recommendations

49. The Meeting, having identified some of the problems that developing countries faced in expanding their iron and steel industries identified tentatively some areas in which constructive proposals for international co-operation could be developed. It therefore recommended that a range of specific topics relating to the growth of world steel production and to the raw materials, technology and financing required should be further examined and that for that purpose, as appropriate, UNIDO should convene working groups. The participants in this Meeting were convinced of the need to co-operate with UNIDO by providing appropriate information, in making available their experience and by providing experts to working groups.

50. Two important aspects of international co-operation should be taken into account when considering those topics:

(a) The importance of regional co-operation in the development of the steel industry in developing countries;

(b) Social aspects of, and the interests of labour in, the planning and implementation of steel industry projects in developing countries.

51. UNIDO should convene a second Consultation Meeting on the Iron and Steel Industry in 1978.

52. The Consultation Meeting recognized that although examination of all the topics it had suggested should be initiated, there would be a need to select priority topics on which specific proposals for international co-operation could be elaborated in time for consideration at the Second Consultation Meeting. Having regard to the magnitude and importance of the tasks listed in this Report, it is recommended that the Secretariat should prepare an assessment of the workload involved in the light of the resources expected to be available to UNIDO and that the Bureau of this Consultation Meeting, enlarged by the inclusion of a representative of United Republic of Tanzania (to participate on behalf of developing countries not producing steel at present), should reconvene to recommend an order of priorities for the activities referred to in paragraph 49 and/or elsewhere in this report. Due consideration should be given to work already being undertaken in these areas of activities by other concerned agencies and bodies.

53. This Meeting recommended that its agreed set of conclusions be submitted for the information of and consideration by all interested parties, including the Industrial Development Board and the countries participating in the activities of UNIDO.

6/ Agenda item 4(c).

Annex I

STATEMENT BY

DR. ABD-EL RAHMAN KHANE, EXECUTIVE DIRECTOR OF UNIDO

AT THE FIRST CONSULTATION MEETING ON THE IRON AND STEEL INDUSTRY

Vienna, 7 - 11 February 1977

Only three weeks ago, the First Consultation Meeting organized by UNIDO on the Fertilizer Industry took place here in Vienna. I am pleased indeed to state today that at that Meeting there was an exceptionally good spirit of co-operation and that the results were very constructive. I am sure you will approach your task in the same spirit and strive for achieving at least equally promising results.

UNIDO appreciates very much that about 200 participants from more than 60 countries and several United Nations and other international organizations are present here today. We are also most happy to see that national delegations include representatives of Government, of industry and of labour. This, I am sure, will allow this Meeting to take into account the interest of all parties concerned in its deliberations and help ensure that its recommendations and conclusions can be carried on towards their full implementation. I see, and I am particularly pleased by it, that, among the participants, are senior managers of many steel-producing enterprises both in developing and developed countries. Their participation shows that industrialists are vitally interested in the issues which you are going to consider this week. This shows also how important is the iron and steel industry to Governments and industrialists, be the latter in charge of public or private interests. In fact, all of us know that there is always close co-operation between the two entities, even when they are separate, due to the significance of this sector in any national development strategy.

Moreover, UNIDO selected the iron and steel industry as one of the industrial sectors on which consultations could be organized at an early date, particularly because this basic industry has a strategic and dynamic role to play in the industrialization of developing countries, if the "25 per cent target" set at the Lima Conference is to be achieved.

In the last 25 years, steel consumption in developing countries has increased from about 5 million tons to about 100 million tons. Even so, today some developing countries use less than 0.001 kilogram per capita of steel compared with over 500 kilograms per capita in some developed countries. Therefore, it is obvious that in the next 25 years, the developing countries will need increasing quantities of steel for building their development. UNIDO estimates that their consumption of steel can be expected to grow from about 100 million tons at present to some 500 million tons per annum, or more, by the year 2000 on the assumption - once again in relation with the implementation of the 25 per cent Lima target - that by then the developing countries should have been put in a position to contribute an industrial output in the order of magnitude of the current world industrial production.

As you are aware, the developing countries as a group produce about half of the steel they consume at present. In the future, they need to be able to supply a much higher proportion of their own market requirements. They have most of the raw materials that are required by this industry: iron ore, land, water, energy. Their existing achievement in steel production, however, shows that their human skills necessary to construct and operate steel plants should be developed.

This Meeting is expected to examine the growth of the world steel industry in the perspective of the year 2000. Over the next 25 years, the production of steel in developed countries is expected to increase from about 600 million tons per annum at present to at least 1,200 million tons per annum in the year 2000. Bearing in mind that the recent down-turn in the demand for steel in certain developed countries has been more severe than previous cyclical down-turns and that, therefore, the industry faces a number of short-term problems, I would nevertheless strongly urge you all to look ahead to the steady increase in demand that is expected throughout the world over the longer-term as it is essential to find the most appropriate solutions to what is going to be a very complex and challenging situation.

Indeed, fully aware of the fact that it takes to plan, to construct and to operate a steel plant in a developing country some 10 years or more before indigenous personnel are fully trained to run it at its designed capacity, it is my opinion that in this Meeting we should not be concerned so much with the temporary problems that face the steel industry today but rather with the

expansion of world steel production capacity that will be needed in the years ahead. As one can see, the year 2000 is much closer than one tends to realize and therefore your discussion this week may have a bearing on the decisions that will shape the long-term future growth of the world steel industry.

Looking forward to the Lima target of having at least 25 per cent of the world's industrial output produced by the developing countries by the year 2000, it is expected that this Meeting will reach broad agreement on the growth of the developing countries' share of total world steel production from their present low share of about 8 per cent. In this connexion, this Consultation Meeting is expected to express its support for the development of the steel industry in developing countries and agree how it can proceed harmoniously with the expansion of the industry in industrialized countries as well as reach agreement on the mobilization of resources and constructive international co-operation.

It is with these objectives in mind, that UNIDO prepared and distributed for this Meeting several background documents, including a draft world-wide study of the iron and steel industry. In addition, a Preparatory Meeting for this Consultation Meeting was held in Vienna last December and was attended by participants from 23 developed and developing countries. Several international organizations, including UNCTAD, the World Bank and the International Iron and Steel Institute participated and we are grateful for their contribution.

The participants at the Preparatory Meeting examined seven issues, suggested by the UNIDO secretariat. Their conclusion was that at this first Consultation Meeting, three broad issues should be considered; these issues were formulated in such a way that all the interrelated topics relevant to the expansion of the world iron and steel industry could be taken up. UNIDO has accepted their recommendation and these three issues are included in the provisional agenda that is suggested for your consideration.

If this agenda is adopted, you will be discussing goals for the expansion of the world steel industry and for the growing share of total world production to be contributed by developing countries. You will examine how best to ensure that the raw materials required for this expansion of output can be made available, and you will consider the technology and financial resources that will be required to build up this capital-intensive industry particularly as far as the developing countries are concerned.

UNIDO has convened this Meeting in response to a decision of the General Assembly of the United Nations that a system of consultations should be established in order to facilitate the achievement of goals set forth at Lima in the field of industrialization of the developing countries. The Industrial Development Board then decided that consultations should be organized at first on an experimental basis to consider international co-operation in specific industrial sectors.

I would like to recall that, in accordance with the main purpose of such a system of consultations, there is a need to consider ways and means by which a better management of world resources in the field of iron and steel can be achieved. In fact, in addition to the need to discuss how the growing local production of iron and steel that is required to satisfy the aspirations of developing countries can be operated in the context of an orderly growth of the world steel industry, this forum could also be a golden opportunity to address problems of broader concern to mankind like, for example, the use of precious natural gas that is flared at present in many oil-producing countries. I hope this first Meeting will represent a good start to the development of constructive proposals to achieve these goals.

We do not expect that you will find all the solutions for so many complex issues during this first session. The Lima Declaration and Plan of Action anticipated the need for more meetings of this type and called for continuing consultations. This means that further consultation meetings on the iron and steel industry should be held in future to arrive at common understanding and consequently at concrete agreements. Therefore, the required follow-up action to this First Consultation Meeting should be formulated during your deliberations this week.

In conclusion, may I assure you that I will be following your deliberations with great personal interest indeed, particularly because a successful conclusion of this Meeting will bear a great deal on the furthering of similar consultations on other industrial sectors and the development of the system of consultations as a whole.

Annex II

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Annex III

LIST OF DOCUMENTS

ID/WG.241/1/Rev.1	Background and supporting information on issues which might be selected for consideration at the consultation meeting
ID/WG.241/2	Summary of the draft world-wide study of the iron and steel industry: 1975-2000
ID/WG.241/3	List of participants in the Preparatory Meeting
ID/WG.241/4	Conclusions and recommendation adopted by the Preparatory Meeting
ID/WG.243/1	Provisional agenda
ID/WG.243/2	Advance information for participants
ID/WG.243/3	Issues suggested for consideration by the First Consultation Meeting on the Iron and Steel Industry
ID/WG.243/4	Provisional list of documents
ID/WG.243/5/Rev.1 and Corr.1	List of participants
ID/WG.243/6/Rev.1	Report of the First Consultation Meeting on the Iron and Steel Industry
UNIDO/ICIS.25	Draft world-wide study of the iron and steel industry: 1975-2000